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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment of the Commission's Rules with regard to the 3650-3700 MHz Government Transfer Band	)	ET Docket No. 98-237

REPLY COMMENTS OF COMSAT CORPORATION

COMSAT Corporation ("COMSAT") herein hereby submits its Reply to the Comments filed in the Commission's Notice of Proposed Rule Making and Order ("NPRM") in the above-captioned proceeding.

Introduction and Summary

In its NPRM, the Commission implemented an immediate freeze, effective December 18, 1998, on additional use of the 3650-3700 MHz band by Fixed Satellite-Services ("FSS"); proposes to reallocate this band on a primary basis for non-government use; and concludes that existing earth stations will be grandfathered.

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The satellite community is united in its opposition to any proposal that would prohibit expansion of FSS in the 3650-3700 MHz band. Their Comments provide more than sufficient grounds for rescinding the freeze -- particularly given the absence of any clear support for the use of this

band by FS providers. The Commission should expand this proceeding to take into consideration the need to designate spectrum in the 3600-3700 MHz band for TT&C functions of space stations operating in bands other than the C- and Ku-bands. In any event, there is no demonstrable public interest benefit in foreclosing the use of extended C-band by the FSS when this capacity is currently required to meet customer service requirements.

Significantly, none of the advocates for the fixed services or providers of Fixed Wireless Access ("FWA") equipment and services appear to believe that the actions proposed by the FCC in the NPRM will meet their needs. Most FWA proponents address the 3400-3600 MHz band. In fact, there is every indication that the 3650-3700 MHz frequencies "are the wrong size and the wrong location for any meaningful development of FWA."[1]

The fixed service commenters paid little or no attention to the possibility of sharing between FSS and FS, even though these two services would need to co-exist under the FCC's proposal. The FWA industry commenters focus much of their attention on issues related to the overall use of

[1] Comments of SBC Communications, Inc. ("SBC") at 1.

the 3400-3700 MHz band.[2] While consideration of this band is beyond the scope of this NPRM, the Commission should consider expanding the scope to address the issue of using FSS and FS across the entire band. Instead of freezing FSS use of the 3650-3700 MHz band, an expanded band would serve the interests of both the FWA and FSS operators.

In its Reply, COMSAT will respond to several of the points raised in the Comments by the FSS and FS operators. As set forth below and in COMSAT's Comments, the Commission should support continued operation and expansion of FSS operations in the 3650-3700 MHz band.

I. The FCC should rescind the freeze on FSS.

COMSAT and numerous other companies with FSS operations strongly oppose the freeze imposed on FSS applications seeking to use the 3650-3700 MHz band.[3] The freeze causes harm to FSS operators and their customers; it is unjustified and it should be rescinded immediately.

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[2] Much of the focus of the fixed service community is on the possibility of FS sharing with radiolocation service and Government operated radar in the C-band below 3700 MHz.

[3] GE American Communications, Inc., ("GE"); GlobeCast North America, Inc., ("GlobeCast"); PanAmSat Corporation ("PanAmSat"), Sprint Corporation ("Sprint"), Echostar Communications Corporation ("Echostar"), Hughes Communications, Inc. ("Hughes"), TRW Inc./Lockheed Martin Corporation (TRW/Lockheed");, New Skies Satellites, N.V. ("NSS"), Loral Space & Communications Ltd. ("Loral") and the Satellite Industry Association ("SIA") all object to the freeze in their respective Comments.

In implementing the freeze, the Commission has failed to take into account its ongoing rulemaking proceeding (RM-9411), which relates to the use of a portion of the band for satellite TT&C;[4] the shortage of C-band capacity in the United States; the importance of extended C-band as a means of alleviating this shortage; and the possibility that through the development and implementation of appropriate interference criteria that coordination procedures can be developed to permit shared operation in the band.[5]

A number of parties in addition to COMSAT have filed Comments opposing the Commission's proposal to foreclose the use of extended C-band capacity for FSS. SIA, NSS, Sprint GE, GlobeCast and PanAmSat all have emphasized that the licensing freeze "represents a seemingly arbitrary change to long standing policy and practice in spectrum management that will result in loss of value to existing satellite operators and customers."[6] As summarized by PanAmSat, "the fact that the 3650-3700 MHz band is a natural choice for alleviating the shortage of C-band capacity, combined with

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[4] *See Amendment of Parts 2 and 25 of the Commission's Rules to Designate Extended C-band Spectrum for TT&C functions of GSO FSS Systems*, Petition for Rulemaking, RM-9411 (filed August 7, 1997).

[5] In addition, as pointed out by PanAmSat, the Commission must consider that no petition for rulemaking was filed requesting the reallocation of the 3650-3700 MHz band. The Commission's actions have deprived the FSS industry of an opportunity to object to the imposition of a freeze which seriously affects its ability to operate in the band.

[6] Comments of SIA at 9. See also, Comments of NSS at 2-4; Comments of GE at 3-5.

the fact that the FSS industry has relied on the FSS allocation in its spectrum planning, weigh heavily in favor of preserving the band for FSS use."[7]

COMSAT previously has discussed the need for extended C-band to alleviate the saturation problems of the INTELSAT system, and to accommodate use of the band by other countries. Consistent with the foregoing, satellite operator NSS has filed Comments which also have emphasized that the freeze "forecloses the ability of satellite operators to make effective use of this band, strands investment made in in-orbit satellites"[8] and "would disrupt service to existing customers."[9] Similarly, PanAmSat has shown that the freeze will "impede the development of FSS satellite systems, and lead to inefficient use of spectrum resources."[10]

Satellite carriers also have expressed their concern that the Commission's actions will constrain carriers "from using INTELSAT service to provide service to locations which cannot otherwise be reached and for which this service is essential."[11] Sprint has explained that "any prohibition

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[7] Comments of PanAmSat at 5.
[8] Comments of NSS at 1.
[9] *Id.*
[10] Comments of PanAmSat at 2.
[11] Comments of Sprint at 2.

on modifications will have a significant detrimental impact on common carriers' international services."[12] Unless licensees are permitted to modify their licenses, carriers "will be unable to access new services which INTELSAT may offer in this band and INTELSAT's expansion of frequency in this band."[13] Moreover, "little benefit would accompany these negative consequences, because the band is of limited utility for the purposes for which it has been proposed and much more suitable spectrum is available for terrestrial use."[14]

Dedicating 50 MHz at the end of the 3650-3700 MHz band is the wrong approach to furthering competition for FWA. Thus, a number of commenters, including representatives of the fixed service industry, have argued that U.S. spectrum allocations should be consistent with foreign fixed wireless allocations. As noted by Lucent and others, the 50 MHz spectrum allocation at 3650-3700 MHz is limited compared to the 3400-3600 MHz band which is being developed in Canada, Mexico and other countries for FWA.[15] The Commission can rightly conclude that "the proposed allocation of the 3650-3700 MHz band for Fixed Wireless Access would discourage

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[12] *Id.* at 3.
[13] Comments of Sprint at 2. SIA has also shown that the freeze also will adversely affect satellite manufacturers.
[14] Comments of PanAmSat at 2.
[15] Comments of Lucent Technologies ("Lucent") at 5, Northern Telecom, Inc. ("Nortel") at 2; SBC at 1; Transcomm, Inc. ("Transcomm") at 4.

rather than encourage the near term introduction of wireless communications . . . ."[16]

In view of the foregoing, COMSAT urges the Commission to rescind the freeze and to permit existing licensees to modify their licenses in the 3650-3700 MHz band.

II. Technical issues and proposed spectrum sharing.

COMSAT provided preliminary information in its Comments indicating that sharing between FSS and FS might be possible depending upon the type of FS operations that may be licensed in the proposed band. Other FSS commenters expressed similar views, but recognized that more information and study would be necessary.

Hughes believes it should be possible to develop appropriate criteria that will allow co-frequency sharing with satellite earth stations in general, and with TT&C downlink functions in particular.[17] TRW and Lockheed believe that it may be possible for the Commission to derive limits of coordination approaches for the 3650-3700 MHz band that would apply to terrestrial and/or satellite users and

[16] Comments of Airspan at 1.
[17] Comments of Hughes at 5.

enable certain types of wireless and satellite applications to co-exist.[18]

GE emphasizes that unless FSS operations are able to proceed on a reasonably unimpeded basis, it would strongly oppose allocation of this band for terrestrial use, as proposed in the NPRM. Nevertheless, GE says that it is prepared to explore sharing possibilities and that it may be possible for FWA applicants to share spectrum with FSS service links depending upon the technical characteristics of FWA systems.[19] Loral makes clear that TT&C satellite earth stations could co-exist with fixed wireless services under certain parameters.[20]

In addressing the issues of out-of-band emissions and VSAT operations, COMSAT stated in its Comments that the proposed limit of 43 + 10 Log (P) dB was much too relaxed; that the requirement should be as stringent as practicable to reduce the need for out-of-band interference coordination; and that VSAT operation should not be restricted in the adjacent band above 3700 MHz. We stated our belief that VSAT operations could co-exist in adjacent

[18] Comments of TRW/Lockheed at 7.
[19] Comments of GE at 8-9.
[20] Comments of Loral at 8.

bands as well as in the 3650-3700 MHz band, if appropriate measures are taken to prevent interference.[21]

PanAmSat also addressed this issue and finds that the proposed fixed service operations would have unacceptable out-of-band power densities.[22] Moreover, in addressing the VSAT issue and the Commission's suggestion that VSATs could be prevented from using part of the above 3700 MHz, PanAmSat demonstrates that the associated smaller size of VSAT antennas do not make them more susceptible to out-of-band emissions when the out-of-band emissions are emanating from ubiquitous terminals in an adjacent band.[23]

We strongly agree with PanAmSat that subjecting services in the heavily used conventional C-band to interference from out-of-band emissions from proposed FS operations and placing a limit on earth station size is too steep a price to pay for reallocating the band 3650-3700 MHz to the fixed service. The FCC should not adopt the proposed out-of-band emission limits. Nor should it place restrictions on the FSS antenna size. In this regard, the Commission should take note of Lucent's comment that

[21] Comments of COMSAT at 14-15.
[22] Comments of PanAmSat at 7.
[23] *Id.* at 8.

protection can be provided to VSAT terminals operating in the same frequency band as FWA.[24]

After reviewing the comments filed in this proceeding, COMSAT maintains its view that sharing between FS and FSS would be feasible in the band with appropriate operating parameters and coordinating procedures. However, the specifics cannot be assessed until more is known about the type of operation that the FCC proposes to license in the band. Nevertheless, we agree with GE and PanAmSat that the price of sharing could be too high under certain conditions. The public interest would not be served by placing undue constraints on FSS expansion, or causing disruption of existing services to accommodate a new service that may not be technically or commercially viable in this narrow bandwidth.

Respectfully submitted
COMSAT Corporation

By _____
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Its Attorney

March 1, 1999

[24] Lucent at 6-7. Lucent also makes reference in n.8 of its Comments to Document 4-9S/TEMP/51 (Rev.3)-E, *Sharing methodology between fixed wireless access (FWA) systems in the fixed service and very small aperture terminals (VSATs) in the fixed-satellite service in the 3.4-3.7 GHz range.*

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing Reply Comments of COMSAT Corporation were mailed this 1st day of March 1999 to the following by U.S. mail, postage prepaid:

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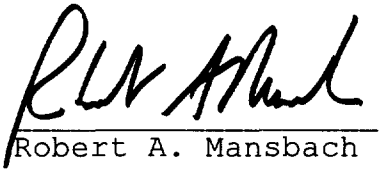

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